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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,001	09/25/2000	Kenneth Branth	M-8764 US	3652

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Finnegan, Henderson, Farabow, Garrett & Dunner LLP
1300 I Street, N.W.
Washington, DC 20005-3315

EXAMINER

EUGENE, WANDA

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/670,001

Applicant(s)

BRANTH ET AL.

Examiner

Wanda Eugene

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-7,9-13 and 15-25 is/are rejected.
- 7) ☐ Claim(s) 8 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Fig. 1: 24a. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 34 (page 4 line19). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The disclosure is objected to because of the following informalities: related application patent number must be included; attorney docket number does not suffice.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 9, 15, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Caldara et al. (U.S. 6,141,346).

Art Unit: 2666

Regarding claims 1, 9, 15 and 19 Caldara et al. discloses an ATM switch comprising: generating a connection table in a memory (**switch allocation tables** 20 fig 1); generating a multicast master entry (**FSPP** 16 fig.1) in said connection table, said multicast master entry holding address locations (**a cell buffered in a queue of input buffers** col. 2 lines 63-64) at which multicast ATM cells are stored, said multicast master entry having a limit field (**map** 56 fig. 3) and a count field (**scoreboard** 58 fig. 3); generating one or more multicast member entries associated with said multicast master entry in said connection table (**input queues** fig. 1 26,28), each multicast member entry identifying a destination connection on which said multicast ATM cells are to be transmitted; initializing said count field (**the scoreboard is initialized to all logic "0" bits** col. 5 lines 20-21) in said multicast master entry; setting said limit field in said multicast master entry to a predetermined value (**map is initialized according to subqueues which act as offset** col. 5 lines 15-16); and comparing a value in said count field with said value in said limit field (**the scoreboard is then compared to the map and if a complete match is determined then each cell has been transmitted** col. 5 lines 27-30).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-4, 7, 10-11, 13, 16-17 and 20-21 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caldara et al. in view of Holden (U.S. 6,134,218).

Caldara teaches the claimed invention of a as disclosed in claims 1, 9, 15 and 19 except for incrementing count field each time a multicast ATM cell is received for said multicast master entry; decrementing count field each time a multicast ATM cell is transmitted to said destination of one or more multicast member entries; and if said value in said count field is equal to or greater than said value in said limit field, designating a first one of said multicast member entries currently being transmitted as inactive. Holden discloses an input (IRT) and output routing table (ORT). Each time a cell enters and is queued for transmission through either an IRT or an ORT, appropriate counters are incremented. Each time a cell leaves either IRT or ORT the counters are decremented. Counter values are compared to at least one threshold for that count value. If a threshold is equaled or exceeded appropriate congestion management action is taken (col. 5 lines 5-13). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Caldara ATM switching system to include a means of detecting congestion as taught by Holden in order to provide a reliable system in which shared resources can allow for effective use of system resources while able to guarantee service cells means of avoiding a congested system can be deployed.

Regarding claims 3, 4, 11, 17 and 21, the combination of Caldara and Holden teaches the claimed invention as disclosed in claims 2, 10, 16 and 20. The applicant claims a means for removing multicast member entries from connection table when said first one of said multicast member entries is designated as inactive and removing a cell queue containing ATM cells associated with said multicast master entry. Holden discloses congestion management, which

includes cell loss priority, early packet discard, and random early discard in which cells packets and frames are discarded in the occurrence of congestion (col. 9 lines 30-50). It would have been obvious to one of ordinary skill in the art to at the time of the invention to modify Caldara et al. to include a series of congestion management actions as taught by Holden in order to allow system resources to flow and be used throughout an ATM architecture.

11. Claims 5, 6, 12, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over in Holden view of Caldara et al.

Holden discloses all the aspects of the claimed invention as set forth in claims 2, 10, 16 and 20 except for the first one of said multicast member entries designated as inactive is the only multicast member entry associated with said multicast master entry, said method further comprises: ceasing receipt of incoming ATM cells associated with said multicast master entry as in claims 5, 18 and 22. Caldara et al. teaches a REJECT bit which is asserted if the FSPP has been exhausted (col. 3 lines 33-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Holden to include a rejection bit as taught by Caldara et al in order to send a feedback messages the switching system to further prevent more cells being transmitted to an already congested queue.

Regarding claims 6 and 12, Holden discloses all the aspects of the claimed invention as set forth in claims 2, 10, 16 and 20 except for decrementing said count field comprises: setting said count field to zero each time an ATM cell is transmitted. Caldara et al. teaches clearing the scoreboard and de-queuing the cells, when it has been acknowledged that all output ports have been serviced (col. 5 lines 59-61). It would have been obvious to one of ordinary skill in the art

at the time of the invention to modify Holden to include functioning of clearing the counter as that taught by Caldara et al. in order to reset the scoreboard for the next transmission.

Allowable Subject Matter

12. Claims 8 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Simpson et al. (U.S. 6,021,115) ATM switch flow control.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wanda Eugene whose telephone number is 703-305-8978. The examiner can normally be reached on M-F 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q Ngo can be reached on 703-305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2666

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

we



RICKY NGO
PRIMARY EXAMINER